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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,512	03/08/2006	Masayuki Toda	8075-1020	6328
466 7590 03/30/2007 YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER PATEL, REEMA	
			ART UNIT 2812	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/30/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,512	TODA ET AL.	
	Examiner	Art Unit	
	Reema Patel	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/20/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) was submitted on 12/20/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaartstra et al. (U.S. 6,244,575 B1).
5. Regarding claim 1, Vaartstra et al. discloses a vaporization method, wherein a raw material solution is brought into contact with a heated carrier gas and carried to a subsequent step (col 6, lines 32-34).
6. Regarding claim 2, Vaartstra et al. discloses that the temperature of the heated carrier gas is 100 to 300°C (col 6, lines 25-27).
7. Regarding claim 3, Vaartstra et al. discloses that the temperature of the heated carrier gas is 200 to 250°C (col 6, lines 25-27).

8. Regarding claim 4, Vaartstra et al. discloses that the raw material solution is obtained by solving an organic metal compound in a solvent (col 1 lines 18-43, col 4 lines 15-19).
9. Regarding claim 5, Vaartstra et al. discloses that, the carrier gas is an inert gas (col 6, lines 8-9).
10. Regarding claim 6, Vaartstra et al. discloses that the carrier gas contains an oxidizing gas in an inert gas (col 7, lines 47-60).
11. Regarding claim 9, Vaartstra et al. discloses that the solvent of the raw material solution is contained in the carrier gas before introducing the raw material solution (col 7, lines 8-23).
12. Regarding claim 11, Vaartstra et al. discloses a vaporizer having: a vaporization chamber; a carrier gas passage communicating with the vaporization chamber; a raw material solution lead-in port through which the raw material solution is led into the passage; and means for heating the carrier gas (Fig. 3).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaartstra et al (U.S. 6,244,575 B1) as applied to claim 1 above, and further in view of Yamoto et al. (JP 2003-273030).

15. Regarding claim 7, Vaartstra et al is silent regarding the speed of the carrier gas. However, Yamoto et al. discloses that the speed of the carrier gas is set to a sonic speed to achieve an optimum between shearing and atomization of the raw material solution ([0097]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Vaartstra et al with the carrier gas having a sonic speed, as taught by Yamoto et al., so as to achieve an optimum between shearing and atomization of the raw material solution.

16. Regarding claim 8, Vaartstra et al is silent regarding the hole size of the passage for the carrier gas. However, Yamoto et al. discloses that the hole has a diameter between 0.10 mm to 0.5 mm so that processing does not become very difficult and a large flow quantity of carrier gas having a high pressure is not needed ([0043]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Vaartstra et al with a hole size diameter between 0.10 mm and 0.5 mm, as taught by Yamoto et al., so as to eliminate the need for a large flow quantity of carrier gas having a high pressure and ease processing conditions.

17. Regarding claim 10, Vaartstra in view of Yamoto et al. does not disclose that the concentration of the raw material solution is 0.2 mol/L or below. However, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to have the concentration of the raw material 0.2 mol/L or below, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reema Patel whose telephone number is 571-270-1436. The examiner can normally be reached on M-F, 8:00-4:30 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2812

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RSP
3/28/07

SCOTT B. GEYER
PRIMARY EXAMINER

 3/28/07